WE CLAIM:

1. A method of enhancing an immune response to an antigen comprising administering an effective amount of an agent that can augment the level of a TAP molecule in a target cell bearing the antigen to a cell or animal in need thereof.

2. A method according to claim 1 wherein the agent is a nucleic acid sequence comprising a sequence encoding a TAP molecule.

3. A method according to claim 1 wherein the target cell is a virally infected cell.

4. A method according to claim 1 wherein the target cell is a tumor cell.

5. A method according to claim 2 wherein the TAP molecule comprises TAP-1.

6. A method according to claim 2 wherein the TAP molecule comprises TAP-2.

7. A method according to claim 2 further comprising administering a nucleic acid sequence encoding an antigen.

8. A method according to claim 7 wherein the antigen is a viral antigen.

9. A method according to claim 7 wherein the antigen is a tumor antigen.

10. A method according to claim 2 further comprising administering a growth factor, chemokine, accessory molecule or a gene inducible by

retinoic acid, tumor necrosis factor, interferon alpha, beta or gamma, tapasin, calnexin, calreticulin, p53, p58, MHC I heavy chain, HSP 70, HSP 90, BIP, GRB94, interferon response proteins 3 and 7.

11. A method according to claim 10 wherein the accessory molecule is selected from the group consisting of tapasin, calnexin, calreticulin, p58, MHC class I heavy chain, β_2M, LMP2 and LMP7.

12. A method according to claim 4 wherein the animal is also subjected to surgery, radiation, chemotherapy, immunotherapy or photodynamic therapy.

13. A method according to claim 1 wherein the agent is interferon-γ.

14. A method according to claim 1 wherein the agent is administered intraperitoneally, subcutaneously, intravenously, orally, mucosally, submucosally or intradermally.

15. A method according to claim 4 wherein the agent is administered intraperitoneally, intratumorally, subcutaneously, intravenously, orally, mucosally, submucosally or intradermally.

16. A method according to claim 2 wherein the nucleic acid molecule is in a vector.

17. A method according to claim 16 wherein the vector is a viral vector.

18. A method according to claim 17 wherein the viral vector is selected from the group consisting of vaccinia based vectors, adenovirus based vectors, lenti virus based vectors and HSV based vectors.

19. A method according to claim 16 wherein the vector is a plasmid.

20. A method according to claim 19 wherein the plasmid is an a liposome formulation.